

CLAIMS

What is claimed is:

1. A system to provide conversation states, comprising:
 - a first computing device capable of accepting a message for a conversation;
 - a second computing device capable of maintaining the state for a conversation; and
 - a conversation manager capable of identifying the computing device which maintains the state for a conversation.
2. The system according to claim 1, wherein:
 - the first and second computing device form a cluster.
3. The system according to claim 1, wherein:
 - the conversation manager is capable of maintaining the locations of all states in the system.
4. The system according to claim 1, wherein:
 - a computing device is capable of maintaining its state information, which may include, but is not limited to, a map of every state leased, owned, or stored on it.
5. The system according to claim 4, wherein:
 - a computing device is capable of maintaining its state information in-memory.
6. The system according to claim 4, wherein:
 - a computing device is capable of maintaining its state information both in-memory and on persistent storage.
7. The system according to claim 4, wherein:
 - the state information on at least one primary computing device can be replicated to one secondary computing device.

8. The system according to claim 7, wherein:

the conversation manager is capable of routing to the secondary computing device and setting it as the new primary when the primary computing device fails.

9. The system according to claim 1, wherein:

the conversation manager is capable of periodically determining the availability of computing devices.

10. A system to provide conversation for Web service, comprising:

a conversation partner capable of providing a message for a conversation;
a first computing device capable of accepting a message for a conversation;
a second computing device capable of maintaining the state for a conversation; and
a conversation manager capable of identifying the computing device which maintains the state for a conversation.

11. The system according to claim 10, wherein:

The message includes a conversation ID.

12. The system according to claim 10, wherein:

the first and second computing device form a cluster.

13. The system according to claim 10, wherein:

the conversation manager is capable of maintaining the locations of all states in the system.

14. The system according to claim 10, wherein:

a computing device is capable of maintaining its state information, which may include, but is not limited to, a map of every state leased, owned, or stored on it.

15. The system according to claim 14, wherein:

a computing device is capable of maintaining its state information in-memory.

16. The system according to claim 14, wherein:

a computing device is capable of maintaining its state information both in-memory and on persistent storage.

17. The system according to claim 14, wherein:

the state information on at least one primary computing device can be replicated to one secondary computing device.

18. The system according to claim 17, wherein:

the conversation manager is capable of routing to the secondary computing device and set it as the new primary when the primary computing device fails.

19. The system according to claim 10, wherein:

the conversation manager is capable of periodically determining the availability of computing devices.

20. The system according to claim 11, wherein:

a computing device is capable of contacting the conversation manager to determine the location of a state using the conversation ID.

21. The system according to claim 10, wherein:

a computing device is capable of answering a request for a state directly without contacting the conversation manager if it owns such state.

22. The system according to claim 10, wherein:

the conversation manager is capable of accepting a request for the location of a state from a computing device.

23. The system according to claim 11, wherein:

the conversation manager is capable of providing the location of a state to a computing device requesting it based on the conversation ID.

24. The system according to claim 10, wherein:

a computing device is capable of accepting the location of a state from the conversation manager.

25. The system according to claim 10, wherein:

a computing device is capable of invoking a state on a computing device in order to respond to a conversation message received.

26. The system according to claim 10, wherein:

the conversation manager is capable of sharing a state with at least two conversations.

27. The system according to claim 10, wherein:

the conversation manager is capable of tracking a participating Web service that initiates conversation.

28. The system according to claim 27, wherein:

the conversation manager is capable of sharing a state with at least two Web services and joining the sessions of these services.

29. A method to provide a conversation for a Web service, comprising:

accepting a conversation message from a conversation partner;
contacting a conversation manager to determine the location of the state for a conversation;
accepting the location of a state from the conversation manager; and
invoking a state on a computing device in order to respond to the conversation message received.

30. A method to provide a conversation for a Web service, comprising:

accepting a conversation message from a conversation partner; and
invoking a state on a computing device in order to respond to the conversation message received directly without contacting the conversation manager if the computing device owns such state.

31. The method according to claim 29, further comprising:

maintaining the locations of all states in the system on the conversation manager.

32. The method according to claim 29, further comprising:

maintaining on a computing device its state information, which may include, but is not limited to, a map of every state leased, owned, or stored on it.

33. The method according to claim 32, further comprising:
maintaining the state information on a computing device in-memory.
34. The method according to claim 32, further comprising:
maintaining the state information on a computing device both in-memory and on persistent storage.
35. The method according to claim 32, further comprising:
replicating the state information on at least one primary computing device to one secondary computing device.
36. The method according to claim 35, further comprising:
routing to the secondary computing device; and
setting it as the new primary when the primary computing device fails.
37. The method according to claim 29, further comprising:
determining the availability of computing devices periodically.
38. The method according to claim 29, further comprising:
providing a conversation message to a computing device.
39. The method according to claim 29, further comprising:
accepting request for the location of a state from a computing device; and
providing the location of the state to the computing device requesting it.
40. The method according to claim 29, further comprising:
sharing a state for at least two conversations.
41. The method according to claim 29, further comprising:
tracking a participating Web service that initiates a conversation.
42. The method according to claim 41, further comprising:
sharing a state with at least two Web services; and
joining the sessions of these services.

43. A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

- accept a conversation message from a conversation partner;
- contact a conversation manager to determine the location of the state for a conversation;
- accept the location of a state from the conversation manager; and
- invoke a state on a computing device in order to respond to the conversation message received.

44. A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

- accept a conversation message from a conversation partner; and
- invoke a state on a computing device in order to respond to the conversation message received directly without contacting the conversation manager if the computing device owns such state.

45. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- maintain the locations of all states in the system on the conversation manager.

46. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- maintain on a computing device its state information, which may include, but is not limited to, a map of every state leased, owned, or stored on it..

47. The machine readable medium of claim 46, further comprising instructions that when executed cause the system to:

- maintain the state information on a computing device in-memory.

48. The machine readable medium of claim 46, further comprising instructions that when executed cause the system to:

- maintain the state information on a computing device both in-memory and on persistent storage.

49. The machine readable medium of claim 48, further comprising instructions that when executed cause the system to:

- replicate the state information on at least one primary computing device to one secondary computing device.

50. The machine readable medium of claim 49, further comprising instructions that when executed cause the system to:

- route to the secondary computing device; and
- set it as the new primary when the primary computing device fails.

51. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- check for the availability of computing devices periodically.

52. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- provide a conversation message to a computing device.

53. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- accept request for the location of a state from a computing device; and
- provide the location of the state to the computing device requesting it.

54. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- share a state with at least two conversations.

55. The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

- track a participating Web service that initiates a conversation.

56. The machine readable medium of claim 55, further comprising instructions that when executed cause the system to:

- share a state with at least two Web services; and
- join the sessions of these services.

57. A system for handling conversation, comprising:

- means for accepting a conversation message from a conversation partner;

means for contacting a conversation manager to determine the location of the state for a conversation;

means for accepting the location of a state from the conversation manager; and

means for invoking a state on a computing device in order to respond to the conversation message received.

58. A computer data signal embodied in a transmission medium, comprising:

a code segment including instructions to accept a conversation message from a conversation partner;

a code segment including instructions to contact a conversation manager to determine the location of the state for a conversation;

a code segment including instructions to accept the location of a state from the conversation manager; and

a code segment including instructions to invoke a state on a computing device in order to respond to the conversation message received.